

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte RANDALL G. BUCKLEY, BARRY R. BRESLAU and  
SHAWN P. TANSEY

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Appeal No. 1997-1298  
Application No. 08/227,158

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ON BRIEF

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Before DOWNEY, WILLIAM F. SMITH, and ELLIS, Administrative Patent Judges,  
DOWNEY, Administrative Patent Judge.

DECISION ON APPEAL

This decision involves an appeal under 35 U.S.C. ' 134 from the final rejection of claims 22 and 23, all the claims pending in the application.

Claim 22 is illustrative of the subject matter on appeal and reads as follows:

22. A polymer latex recovered from whitewater emulsion by contacting the whitewater emulsion with an ultrafiltration membrane under laminar flow conditions, to remove water from the whitewater emulsion, wherein the whitewater is generated by diluting a polymer latex product, and wherein the polymer latex so recovered may be blended into the product at a level of at least 5 weight percent with no deleterious effect

upon performance properties of the product.

The references relied upon by the examiner are:

Del Pico	(Del Pico)	4,160,726	Jul. 10, 1979
Kuhls et al.	(Kuhls)	4,369,266	Jan. 18, 1983

Claims 22 and 23 stand rejected under 35 U.S.C. ' 112, second paragraph. The claims also stand rejected under 35 U.S.C. ' 103. As evidence of obviousness, the examiner relies on Del Pico and Kuhls. We reverse both grounds of rejection.

### Background

The equipment for making a polymer latex product must be cleaned on a regular basis. The cleaning operations result in the dilution of the polymer latex product with water, producing a whitewater with a solid concentration of about normally 5% by weight or less, although it may be higher.<sup>1</sup> Typical whitewaters may contain emulsion-sized particles of polymers and are generated by combining batches of different polymer types, with the entire mixture treated as a single waste stream.<sup>1</sup>

The whitewater emulsion often presents a waste-disposal problem. Semipermeable membrane filtration, particularly ultrafiltration, is used to concentrate the whitewater emulsion. Solids are recovered, along with various cleaning agents and miscellaneous contaminants, and typically buried in land-fills or used as a filler in asphalt or as a dust-control agent on roadways.<sup>2</sup>

The membrane in the ultrafiltration process is subject to fouling by coagulum which is formed when the whitewater emulsion is sheared and the latex destabilized. The destabilized latex does not retain the performance properties found in the originally

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<sup>1</sup> Specification, p. 2, lines 18-29.

<sup>2</sup> Specification, paragraph bridging pp. 2 and 3.

polymerized latex, and thus the destabilized latex is regarded as low grade product or waste.<sup>3</sup>

The claimed invention pertains to polymer latex recovered from the whitewater emulsion. According to appellants, laminar flow during the ultrafiltration process reduces the formation of coagulum, which leads to less membrane fouling and a better recovered latex.<sup>4</sup> Instead of being treated as a low-grade waste or by-product, the recovered polymer latex is of such quality or grade that it may be blended into the latex polymerization operation at a level of at least 5 weight percent.<sup>5</sup>

The claims at issue

A. Claim 22, representative of the claims on appeal, is directed to polymer latex recovered from whitewater emulsion.

1. The polymer latex is recovered by contacting a whitewater emulsion with an ultrafiltration membrane under laminar flow conditions.

2. The whitewater emulsion is generated by diluting a polymer latex product.

3. The recovered polymer latex may be blended into a polymer latex product at a level of at least 5% by weight with no deleterious effect upon the performance properties of the product.

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<sup>3</sup> Specification, p. 4, lines 13-26.

<sup>4</sup> Specification, p. 8, lines 1-11.

<sup>5</sup> Specification, paragraph bridging pp. 11 and 12.

Prior art cited by the examiner as evidence of obviousness

B. Del Pico:

1. Del Pico describes a polymer latex concentrate obtained from an emulsion stream (col. 4, lines 21-45) by contacting the stream with an ultrafiltration membrane to remove water from the stream (col. 1, line 39, through col. 2, line 58; and Examples 1-3).

2. Del Pico's waste stream is said to be a whitewater emulsion.<sup>6</sup>

3. Del Pico's polymer latex stream is recycled back over the ultrafiltration membrane to concentrate the polymer latex (col. 2, lines 21, 42-46; col. 3, lines 44-54; col. 6, lines 9-18; and the Figure).

4. Del Pico's whitewater, i.e., waste streams of less than 1% solids, are concentrated for mixing with other streams for further concentration to higher levels (col. 4, lines 29-35).

C. Kuhls:

1. Kuhls describes concentrating a fluorinated polymer dispersion by contacting the dispersion with an ultrafiltration membrane to remove water therefrom (col. 2, lines 32-51).

2. Kuhls indicates that in a continuous process a "dilute starting dispersion" may be used (col. 6, lines 9 and 10).

3. Kuhls indicates further that the concentrated fluorinated polymer dispersion is recycled back to a stock vessel containing the fluorinated polymer dispersion. See col. 5, lines 38-56; and Figure 2.

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<sup>6</sup> Specification, p. 5, lines 10-15; and Appellant's August 12, 1996 Brief, p. 4, para. 1.

D. With respect to the claimed invention, neither reference teaches:

1. Contacting a whitewater emulsion with ultrafiltration membrane under laminar flow conditions.

2. A polymer latex recovered from whitewater emulsion, which latex is of such quality that it may be blended into the polymer latex product at a level of at least 5% by weight with no deleterious effect upon performance properties of the product.

Opinion

35 U.S.C. ' 112, second paragraph, rejection

Claims 22 and 23 stand rejected under 35 U.S.C. ' 112, second paragraph. We reverse. We find that one of ordinary skill in the art would reasonably understand what is claimed. See In re Moore, 439 F.2d 1232, 1236, 169 USPQ 236, 239 (CCPA 1971).

The examiner argues that the "product" is indefinite because claim 22 recites a polymer latex and that a polymer latex product implies other than the stated polymer latex. No logical basis is seen for the examiner's position.

Claim 22 is directed to a "polymer latex." The "polymer latex" is formed by treating in the specified manner whitewater obtained by diluting a "polymer latex product." That "product" is simply the end result of a polymerization process which forms a latex. The claimed "polymer latex" is of such quality that it can be blended into the "product", i.e., the "polymer latex product" in the amount specified in the claim with no deleterious effect on the "polymer latex product."

To whatever extent claim 22 may be confusing upon reading it for the first time without resort to the specification, that confusion is readily dissipated when the claim is read in light of the specification as required. In re Moore, supra.

35 U.S.C. ' 103 Rejection

Claims 22 and 23 stand rejected under 35 U.S.C. ' 103 over the combined teachings of Del Pico and Kuhls. We reverse. In our view, the examiner failed to sustain his initial burden of showing that the same or substantially the same product is taught by the Del Pico and/or Kuhls, and thus the burden of persuasion has not shifted to the appellants. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993).

The examiner's position is as follows:

[C]laims 22 and 23 are rejected under 35 U.S.C. ' 103 as being unpatentable over

Del Pico suggests a process for concentrating polymeric latex particles with an ultrafiltration process with a semi permeable membrane.

Kuhls suggests recycling polymer dispersions with ultrafiltration through semi permeable membranes.

It would have been obvious to one of ordinary skill in the art at the time the invention been shown. This is a product by process and the invention is defined in a product by process claim by the product not that process.<sup>[7]</sup>

On this record, the examiner has failed to explain why one skilled in the art would use the Kuhls' membrane as the membrane in the Del Pico process or how the use of the

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<sup>7</sup> Examiner's Answer, pp. 4 and 5. Column and line numbers have been omitted.

Kuhls' membrane in the Del Pico process would lead to the claimed polymer latex. Del Pico teaches concentration of whitewater emulsion as a waste stream, not as a recovered polymer latex product. The examiner has not recognized that the claimed "polymer latex" must be of such a quality that it may be blended into the original latex "product" " at a level of at least 5 weight percent with no deleterious effect upon performance properties of the product." The examiner has not explained how the latex produced by either Del Pico or Kuhls possesses this property. Nor has the examiner explained how the proposed combinations of Del Pico and Kuhls will result in the production of such a latex.

The examiner argues that "the process limitations have no bearing whatsoever or [sic, on] the product claim."<sup>8</sup> This is not necessarily correct.<sup>9</sup> As explained in the paragraph bridging pages 10-11 of the specification, maintenance of laminar flow across the ultrafiltration membrane results in a "gentler" treatment. In this way, appellants' process avoids formulation of coagulum. It is the appearance of coagulum in the treated whitewater product which apparently results in the product being unsuitable for reuse in the original latex product. Thus, a product formed through use of appellants' process using "laminar" conditions will expectedly differ in a positive manner from a product formed from a process using "non-laminar" conditions. The former product can be used as recited in claim 22, the latter presumably can not.

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<sup>8</sup> Examiner's Answer, page 5, first paragraph under section 13.

<sup>9</sup> For example, it should be apparent that a cake made by mixing ingredients and baking the same at 350E for 30 minutes will be substantially different from a cake mixing the same ingredients

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and baking the same at 450EC for 6 hours. Process limitations can affect the product produced.

Conclusion

Accordingly, the rejections of claims 22 and 23 are reversed.

REVERSED

MARY F. DOWNEY	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
WILLIAM F. SMITH	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
JOAN ELLIS	)	
Administrative Patent Judge	)	

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John E. Taylor, III  
Rohm and Haas Company  
100 Independence Mall West  
Philadelphia, PA 19106-2399

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